

# **DESIGN OF A DISCRETE CHOICE EXPERIMENT TO QUANTIFY CONSUMER PREFERENCES FOR CHRONIC HEART FAILURE MANAGEMENT PROGRAMS**

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**BACKGROUND:** Consumer preferences are important to inform the efficient and responsive delivery of health-care services; particularly for the chronically ill. Chronic Heart Failure Management Programs (CHF-MPs) are effective at reducing morbidity and mortality and are arbitrarily applied in different ways and settings. We know very little of consumer preferences surrounding the choice between CHF-MPs applied via the patient's home or a specialist hospital clinic. The Discrete Choice Experiment (DCE) offers a method to systematically quantify the relative importance of different characteristics of a CHF-MP, from the patient's perspective. **OBJECTIVES:** To describe the development of a DCE to quantify consumer preferences related to CHF-MPs. **METHODS:** A series of 12 semi-structured interviews were undertaken with patients enrolled in a clinical trial comparing home and clinic based CHF-MPs (the WHICH? Study). Interviews explored the characteristics of a CHF-MP which were important to patients. These characteristics were then used as a basis for the design of the DCE instrument. A fractional factorial blocked design capable of estimating all main and one two-way interaction effect was utilized. **RESULTS:** Key themes identified by interview participants included delivery, communication, education, and nurturing. A CHF-MP DCE instrument was developed describing CHF-MPs in terms of characteristics including whether the same nurse is seen at each visit, the cost (including travel costs) of seeing the nurse, and access to telephone or exercise/education support services. The DCE will now be pilot-tested before being used to elicit the preferences of approximately 300 patients enrolled in the WHICH? Study. **CONCLUSIONS:** Interviews with CHF patients suggest consumers value aspects of a management program beyond those directly related to health outcomes. The DCE designed from this process will be capable of quantifying preferences and estimating willingness-to-pay for the process-based characteristics of a CHF-MP.

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# **PERCEPTION OF PATIENTS ON WARFARIN THERAPY TOWARD PHARMACIST-MANAGED ANTICOAGULATION SERVICE IN AMBULATORY CARE SETTINGS IN SINGAPORE**

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**OBJECTIVES:** Patient perception has been shown to affect the success of pharmacist-managed clinics such as the anticoagulation clinic (ACC). However, such findings are yet to be elucidated in Singapore. The primary objective of this study was to assess patients' perceptions and acceptance of pharmacist-managed ACC in the primary care settings in Singapore. The secondary objective was to identify factors that may affect patient satisfaction and knowledge on warfarin therapy. **METHODS:** This was a cross-sectional, quality assurance, telephone survey conducted from September to December 2009. All patients referred to the pharmacists-managed ACC from nine primary care institutions for at least one visit were included, and those with hearing disability were excluded. The questionnaire was administered mainly in English, Chinese or Malay, and consisted of three sections: 1) patient demographics, 2) a 20-item, five-point likert scale patient satisfaction questions, and 3) a five-item warfarin knowledge questions. **RESULTS:** A total of 149 (39.9%) surveys were eligible for analysis. Questions categorized into Friendly Explanation and Managing Therapy had mean scores of  $3.64 \pm 0.55$  and  $3.54 \pm 0.60$ , respectively. Gender, ethnicity, education level and age were not associated with patient satisfaction. Age ( $p = 0.03$ ) and education level ( $p = 0.01$ ) were negatively and positively correlated with warfarin knowledge, respectively. **CONCLUSIONS:** Overall, patients found the ACC pharmacists to be friendly and were satisfied with the management of the service. Patient demographics did not associate with patient satisfaction. Age and education level, however, showed to affect warfarin knowledge.

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# **BASELINE HEALTH-RELATED QUALITY OF LIFE STUDY IN HONG KONG CARDIAC PATIENTS UNDERGOING PERCUTANEOUS CORONARY INTERVENTION**

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**OBJECTIVES:** To investigate the baseline quality of life of Hong Kong cardiac patients who had undergone percutaneous coronary intervention (PCI) and the baseline characteristics of these patients. **METHODS:** Eligible cardiac patients at the Prince of Wales Hospital during March to September 2009 were recruited into study while they were hospitalized for PCI. The generic short form 36 health survey (SF 36) and MacNew Heart Disease HRQL questionnaire were used to assess the patient's baseline quality of life. Patients' social and clinical characteristics were also recorded. **RESULTS:** One hundred patients were recruited (male: 81%; mean age:  $62.06 \pm 10.14$ ). The highest incidence of PCI occurred in the age group of 50–59s (30%). Smoking patients reported with lower mean scores indicating a poorer quality of life. The mean scores of the 8 health domains of SF 36 were physical functioning (PF) 72.70, role physical (RP) 53.25, bodily pain (BP) 61.55, general health (GH) 49.83,

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vitality (VT) 47.85, social functioning (SF) 71.89, role emotional (RE) 72.67 and mental health (MH) 68.06. The mean physical component score (PCS) and mean mental component score (MCS) were 36.94 and 47.88, respectively. **CONCLUSIONS:** Risk factors including the male gender and advanced age contributed significantly to coronary heart disease. The presence of comorbidities, cigarette smoking, and long-standing CHD requiring elective PCI also contributed toward a poorer quality of life.

## **CARDIOVASCULAR DISORDERS – Health Care Use & Policy Studies**

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# **COST-EFFECTIVENESS ANALYSIS OF DISEASE MANAGEMENT PROGRAM OF HYPERTENSION IN SHANGHAI, CHINA**

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**OBJECTIVES:** To exploit whether disease management program (DMap) is cost-effectiveness, improvement of quality and outcomes in hypertension intervention at community level. **METHODS:** Four districts were selected to conduct a quasi-experimental study in 2006–2007. About 1442 hypertension patients were enrolled to management group (962 cases) and control group (480 cases). Patient blood pressure, behavior and lifestyles were surveyed at baseline and followed in 6 and 12 months. The cost data were collected from community health institution and disease managers by questionnaires. **RESULTS:** The cost per patient was 968.8 Yuan (RMB) (\$143) in management group and 740.6 Yuan (RMB) (\$109) in control group. The incremental cost per patient in management group was equal to 19 Yuan (RMB) (\$2.8) per patient per month. After a 12-month follow-up, the average systolic blood pressure (SBP) was declined 7.96 mmHg and the average diastolic blood pressure (DBP), 4.5 mmHg in management group. The individual blood pressure before and after intervention matched pairs showed that the average SBP and DBP per patient was reduced 12.95 mmHg and 7.89 mmHg, respectively. The results illustrate the effectiveness of controlling SBP and DBP in management group which is much better than that in control group ( $P < 0.01$ ). However, the cost of declining 1mmHg DBP is much higher than the cost of declining 1 mmHg SBP. The incremental cost-effectiveness analysis (ICEA) showed that incremental cost for declining 1 mmHg SBP and DBP in management group is less than that in control group (0.45 Yuan vs. 83 Yuan). **CONCLUSIONS:** DMap can improve the cost-effectiveness and quality of care in community hypertension intervention. The characteristics of DMap is to promote patient self-management on hypertension by using participatory approach. Patients change their lifestyles (diet, smoking, physical exercise and compliance of medicines) so as to control their blood pressure. Finally, after 1-year best practice, DMap has been scale up to all districts in Shanghai since 2009.

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# **THE IMPACT OF SWITCHING PATIENTS TO ROSUVASTATIN ON HEALTH-CARE EXPENDITURE AND PREVENTION OF CARDIOVASCULAR DISEASE: A COHORT STUDY**

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**OBJECTIVES:** To assess the impact on the health-care expenditure and prevention of hospitalization of cardiovascular disease (CVD) for beneficiaries of Taiwan's National Health Insurance (NHI) scheme after rosuvastatin (RSV) become available in NHI's benefit package in May, 2005. **METHODS:** Using NHI's claim data of a nationally representative random sample (consisting of 1 million of eligible beneficiaries) from 2004–2008, we classified patients  $\geq 20$  years of age who received other statins before and switched to RSV during May 2005 to April 2006 into switch group ( $N = 1,040$ ). Other patients who received statins therapy except RSV before May 2005 and throughout 2008 were classified into control group. Using propensity score (PS), we selected match group ( $N = 1,039$ ) from control group ( $N = 18,432$ ) based on age, gender, prior ambulatory care expenditure, and comorbidities related to the probability of switching. The date of first claim for prescribing RSV or other statins after May 2005 was the index date. Cumulative health expenditure after 1, 2, and 3 years from index date were compared between switch group and match group. Cox regression model controlling for age, sex, and comorbidities was applied to investigate the relative risk of hospitalization for CVD between two groups. **RESULTS:** Patients who switched to RSV are significantly consumed more ambulatory care resources after 1-, 2-, and 3-year of switching (\$348, \$680, and \$1050 more, respectively). Before PS matching, the relative risk of hospitalization CVD in switch group is significantly higher than control group ( $RR = 1.38$ , 95% CI = 1.12–1.70). After PS matching, the relative risk is still higher than match group ( $RR = 1.18$ , 95% CI = 0.881–1.58), but with less significance. **CONCLUSIONS:** RSV may be more cost-effective in lowering low-density lipoprotein cholesterol, but when taking the prevention of CVD hospitalization into account, the cost-effectiveness is diminishing. Putting new drugs into coverage should be considered more rigorously when cost is higher but benefit is not substantive.